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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,340	06/11/2001	Quintin T. Phillips	10010990-1	4062

7590 12/15/2004

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EXAMINER

PENDERGRASS, KYLE M

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/879,340	<b>Applicant(s)</b> PHILLIPS ET AL.	
	<b>Examiner</b> Kyle M Pendergrass	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10,22-28 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-21,29,30 and 34-36 is/are allowed.
- 6) ☒ Claim(s) 1-10,22,23,25-28,31 and 33 is/are rejected.
- 7) ☒ Claim(s) 24 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-4, 9-10, 22-23, 25-26, 28, 31, & 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayward et al. (US 6,798,997).**

Regarding claim 1, Hayward et al., teach a system (**figure 8**) with the method comprising:

*setting parameters for ordering print media (column 9:lines 21-33, threshold conditions include within them parameters used to automatically initiate an electronic order for a replacement of the print media. Set parameters include measure of supply, and statistical data for the component interpreted by the Office as including consumable amount remaining (column 8:lines 36-40, parameter is continuously set for each print job use of consumable) and time since component was installed (Note also that setting a time parameter that tallies time since the component was installed, although not mentioned specifically by Hayward et al., is essential if the rate of depletion calculation and the estimated date of depletion calculation are to function, because otherwise, without collecting a time parameter, their calculations would be missing an element essential to arriving at their calculated value. Therefore, setting a time parameter that tallies the amount of time since component was installed is inherent to the teachings of Hayward et al., Also, column 8:lines 26-31, predetermined parameters also include a threshold for indicating when to reorder supply of print media);*

*gathering daily print media usage data (column 9:lines 26-28, consumable component 11 measures component usage. Column 8:lines 32-40, monitor module tracks ink use every time a print job is sent to the printer);*

*developing a usage distribution from the usage data (column 8:lines 32-36, monitor module tracks each job (usage data) to develop how much ink has been expended in each color for cartridge (usage distribution))*

*correlating one or more of the parameters with the usage distribution to determine a usage tolerance (column 9:lines 26-29, threshold conditions include the rate of depletion for the print media, which is the usage tolerance. In order for a rate of depletion to be calculated, the total use of the cartridge (usage distribution) must be divided by the time since the cartridge was installed (set parameter). Therefore, the rate of depletion (usage tolerance) is determined by correlating the total cartridge use (usage distribution) with time since cartridge was installed (set parameter).*

*and from the usage tolerance and one or more of the parameters, calculating a date when a current supply of print media will be depleted (column 9:lines 26-30, threshold conditions include predicted date of depletion of supply)*

The steps of the calculation of a date when the current supply of print media will be depleted, although not mentioned specifically by Hayward et al., are essential if the prediction is to function. Therefore in order to arrive at the predicted date of depletion for the cartridge supply, it would have been obvious that the consumable amount remaining (set parameter) would be divided by the rate of depletion (usage tolerance) which would result in the time until exhaustion of supply. It is obvious that this value would then be correlated with the current date so the date of supply depletion could then be calculated.

Accordingly, it would have been obvious and within the skill level of one of ordinary skill in the art at the time of the invention to select a calculation method to arrive at the predicted date of depletion for the cartridge supply based on the teachings of Hayward et al., and the requirement to calculate a date when a current supply of print media will be depleted.

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Regarding claim 2, Hayward et al., teach a method as recited in claim 1, further comprising: automatically placing an order for an additional supply of print media such that the additional supply of print media is received prior to the date (**column 9:lines 26-30**, threshold conditions of the automatic ordering system include predicted date of need of the print media where, **column 8:lines 26-31**, the predetermined threshold indicates that the media can be reordered before it is completely exhausted. **Column 9:lines 21-26**, electronic order is automatically initiated for a replacement consumable component).

Regarding claim 3, Hayward et al., teach a method as recited in claim 2. Note also that “resetting one or more of the parameters upon receiving the additional supply of print media”, although not mentioned specifically by Hayward et al., is essential if the automatic system is to function, otherwise, if the usage measurement, and the time since install are not reset, which would not allow the new calculations for newly installed consumables to function. Therefore, “resetting one or more of the parameters upon receiving the additional supply of print media” is inherent to the teachings of Hayward et al.

Regarding claim 4, Hayward et al., teach a method as recited in claim 2, wherein the automatically placing an order further comprises:

retrieving a uniform resource locator (URL) for a vendor (**column 7:lines 45-48**); contacting the vendor by way of the URL (**column 7:lines 60-64**, user contacts the purchase order page of the vendor); and transferring user identification (**column 8:lines 13-15**, user information is sent);

Regarding claim 8, Hayward et al., teach a method as recited in claim 1, wherein the correlating further comprises: accessing a look-up table that matches the one or more parameters to the usage tolerance (**column 8:lines 26-31**, accessing predetermined threshold condition in a database to determine a need for replacement).

Regarding claim 9, Hayward et al., teach a print device, having computer-readable media with computer-readable instructions for performing the method as recited in claim 1 (**column 9:lines 1-4**, marking device 8 includes software algorithm for operating electronic ordering).

Regarding claim 10, Hayward et al., teach a computer, having computer-readable media with computer-readable instructions for performing the method as recited in claim 1 (**column 4:lines 14-19 & column 5:lines 35-39**, computer 30 downloads software during registration for the ordering of print media).

Regarding claim 22, Hayward et al., teach a printing system (**column 9:lines 33-42 & Figure 8**) having consumable print media (**column 9:line 42**, paper) and a cartridge with consumable marking agent (**column 9:lines 41-41**, toner, and toner cartridge), a method comprising:

detecting when a trigger event occurs within the cartridge (**column 8:lines 26-31**, predetermined threshold);

and placing an order for additional print media when the trigger event is detected (**Column 9:lines 21-26**, electronic order is automatically initiated for a replacement consumable component).

Regarding claim 23, Hayward et al., teach a method as recited in claim 22, further comprising:

*setting parameters for ordering print media* (**column 9:lines 21-33**, threshold conditions include within them parameters used to automatically initiate an electronic order for a replacement of the print media. Set parameters include measure of supply, and statistical data for the component interpreted by the Office as including consumable amount remaining (**column 8:lines 36-40**, parameter is continuously set for each print job use of consumable) and time since component was installed (Note also that setting a time parameter that tallies time since the component was installed, although not mentioned specifically by Hayward et al., is essential if the rate of depletion calculation and the estimated date of depletion calculation are to function, because otherwise, without collecting a time parameter, their calculations would be missing an element essential to arriving at their calculated value. Therefore, setting a time parameter that tallies the amount of time since component was

installed is inherent to the teachings of Hayward et al., Also, **column 8:lines 26-31**, predetermined parameters also include a threshold for indicating when to reorder supply of print media));

*gathering daily print media usage data (column 9:lines 26-28*, consumable component 11 measures component usage. **Column 8:lines 32-40**, monitor module tracks ink use every time a print job is sent to the printer);

*developing a usage distribution from the usage data (column 8:lines 32-36*, monitor module tracks each job (usage data) to develop how much ink has been expended in each color for cartridge (usage distribution))

*correlating one or more of the parameters with the usage distribution to determine a usage tolerance (column 9:lines 26-29*, threshold conditions include the rate of depletion for the print media, which is the usage tolerance. In order for a rate of depletion to be calculated, the total use of the cartridge (usage distribution) must be divided by the time since the cartridge was installed (set parameter). Therefore, the rate of depletion (usage tolerance) is determined by correlating the total cartridge use (usage distribution) with time since cartridge was installed (set parameter).

*and controlling the size of the order with the usage tolerance (column 9:lines 21-33*, conditions, including usage tolerance (i.e. rate of depletion of print media), are used to determine when to order replacement media for the particular amount of media that will become exhausted. **column 9:lines 26-30**, threshold conditions include predicted date of depletion of supply)

The steps of the calculation of a date when the current supply of print media will be depleted, although not mentioned specifically by Hayward et al., are essential if the prediction is to function. Therefore in order to arrive at the predicted date of depletion for the cartridge supply, it would have been obvious that the consumable amount remaining (set parameter) would be divided by the rate of depletion (usage tolerance) which would result in the time until exhaustion of supply. It is obvious that this value would then be correlated with the current date so the date of supply depletion could then be calculated so, a an order is automatically placed that contains an amount value of replacement.

Accordingly, it would have been obvious and within the skill level of one of ordinary skill in the art at the time of the invention to select a calculation method to arrive at the predicted date of depletion for the cartridge supply based on the teachings of Hayward et al., and the requirement to calculate a date when a current supply of print media will be depleted.

Regarding claim 25, Hayward et al., teach a method as recited in claim 22, further comprising: placing an order for a new cartridge when the trigger event is detected (**Column 9:lines 21-26**, electronic order is automatically initiated for a replacement consumable component. **Column 9:lines 41-41**, toner and toner cartridge are consumables that are ordered).

Regarding claim 26, Hayward et al., teach a method as recited in claim 22, wherein the cartridge comprises memory storing a vendor uniform resource locator (URL), and wherein the placing an order further comprises: retrieving the vendor URL from the memory (**column 7:lines 45-48**); contacting the vendor by way of the URL (**column 7:lines 60-64**, user contacts the purchase order page of the vendor); and providing an order to the vendor (**column 8:lines 6-12**, order sent to vendor);

Regarding claim 28, Hayward et al., teach a method as recited in claim 22, wherein the trigger event is a signal indicating a low level of marking agent within the cartridge (**Column 9:lines 41-41**, toner and toner cartridge are consumables that are ordered. **column 8:lines 26-31**, order occurs at predetermined thresholds, i.e. ink level low).

Regarding claim 31, Hayward et al., teach a printer (**figure 8**, marking device 8) comprising:  
a cartridge containing a consumable marking agent (**figure 8**, consumable component 11, which, **column 9:lines 40-42**, may include ink and toner cartridges);  
a detector to sense a level of marking agent within the cartridge (**column 8:lines 26-31**, predetermined threshold condition indicates when the consumable has reached an ink level);



a supply of consumable print media (**figure 8**, consumable component 11, which, **column 9:lines 40-42**, may include ink and toner);

and a controller configured to place an order for additional print media when the detector senses a low level of marking agent (**column 9:lines 20-32**, marking apparatus 8 automatically communicates an order when predefined threshold conditions are met).

Regarding claim 33 Hayward et al., teach a computer (**figure 2**, computer 30 & **figure 8**, remote output device 50) coupled to a print device (**figure 2**, peripheral 10 & **figure 8**, marking apparatus 8), the print device comprising a supply of consumable print media (**figure 8**, consumable component 11, which, **column 9:lines 40-42**, may include ink and toner), a consumable marking agent (**figure 8**, consumable component 11, which, **column 9:lines 40-42**, may include ink and toner cartridges), and a detector to sense a level of the marking agent (**column 8:lines 26-31**, predetermined threshold condition indicates when the consumable has reached an ink level), the computer comprising: a printer controller configured to place an order for additional print media when the detector senses a low level of marking agent (**column 9:lines 12-25**, remote output apparatus 50 communicates with consumable to determine a low ink level and then produces an automatic order).

**Claims 5-7 & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayward et al. (US 6,798,997), as applied to claim 1 and further in view of Kurz et al. (6,584,290).**

Regarding claim 5, Hayward et al., teach a method as recited in claim 1, but do not teach the method further comprising the step of warning a user to manually place an order for an additional supply of print media such that the additional supply of print media is received prior to the date.

However, Kurz et al., teach the step of warning a user to manually place an order for an additional supply of print media such that the additional supply of print media is received prior to the date (**column 5:lines 26-30**, a notice/warning is sent to the user suggesting the user order additional supply before the printer media end of life).

Accordingly, it would have been obvious to one skilled in the art at the time of the invention to have used the manual order warning as taught by Kurz et al., in the system and method taught by Hayward et al., because the Kurz et al. teachings provide the ability for a user to contact the vendor via phone (**column 5:lines 26-34**, warning includes vendor phone number).

Regarding claim 6, the claim rejection of claim 5 is representative of claim 6. Note also that "resetting one or more of the parameters upon receiving the additional supply of print media", although not mentioned specifically by Hayward et al., is essential if the automatic system is to function, otherwise, if the usage measurement is not reset, the other conditions, including rate of depletion, and predicted dates of need and exhausted supply, will be inaccurate and based off of the previous media level. Therefore, "resetting one or more of the parameters upon receiving the additional supply of print media" is inherent to the teachings of Hayward et al.

Regarding claim 7, the claim rejection of claim 5 is representative of claim 7. See Kurz et al., wherein the warning further comprises retrieving a telephone number for a vendor (**column 5:lines 26-34**, warning includes vendor phone number); contacting the vendor by way of the telephone number (**column 8:lines 8-11**, information is places so the user can contact the vendor for ordering purposes); and transferring user identification and order detail information to the vendor (**column 7: lines 31-35**, the notice includes customer information and ordering information).

Regarding claim 27, Hayward et al., teach a method as recited in claim 22, but do not teach the cartridge comprising memory storing a vendor telephone number, and wherein the placing an order further comprises: retrieving the vendor telephone number from the memory; contacting the vendor by way of the telephone number; and providing an order to the vendor.

However, Kurz et al., teach a CRU replaceable unit (**column 3:lines 27-29**, ink cartridge) that includes memory (**column 3:lines 41-44**, CRUM memory device included in CRU) that holds notices (**column 7:lines 4-6**) comprising retrieving a telephone number for a vendor (**column 5:lines 26-34**,

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notice includes vendor phone number); contacting the vendor by way of the telephone number (**column 8:lines 8-11**, information is places so the user can contact the vendor for ordering purposes); and transferring user identification and order detail information to the vendor (**column 7: lines 31-35**, the notice includes customer information and ordering information for customer to place an order).

Accordingly, it would have been obvious to one skilled in the art at the time of the invention to have used the manual order notice as taught by Kurz et al., in the system and method taught by Hayward et al., because the Kurz et al. teachings provide the ability for a user to contact the vendor via phone (**column 5:lines 26-34**, warning includes vendor phone number).

### ***Allowable Subject Matter***

Claims 11-21, 29-30, & 34-36 are allowed.

Claims 24 & 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The invention is directed to calculating a date when a current supply of print media will be depleted. The closest prior art, Hayward et al. (US 6,798,997), disclosed a similar method of calculating a date when print media will be depleted.

Regarding claim 11, Hayward et al., do not teach setting a notification limit; setting a confidence level; setting an initial media supply level; gathering daily media usage data to develop a usage distribution; correlating the confidence level to a daily usage tolerance within the usage distribution; and from the initial media supply level and the media usage tolerance, calculating the days remaining before the initial media supply level is depleted.

Regarding claim 29, Hayward et al., do not teach a printer comprising: consumable print media; and a printer controller configured to develop a usage distribution from daily print media usage data and correlate a user confidence level with the usage distribution to determine a usage tolerance; the printer controller further configured to calculate a date when a current supply of print media will be depleted using the usage tolerance.

Regarding claim 34, Hayward et al., do not teach a system comprising: a marking agent cartridge; a detector to provide a sensed level of marking agent within the cartridge; and a controller configured to develop a distribution of print media usage, correlate a confidence parameter with the distribution to determine a usage tolerance, and control the size of a print media order based on the usage tolerance; the controller further configured to place the order when the detector senses a low level of marking agent.

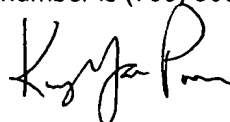
wherein the confidence level is defined as a number that indicates what percentage of print media orders a user is willing to receive after a current print media supply is detected (**Specification, page 13, lines 5-6**).

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle Pendergrass whose telephone number is (703) 306-3445. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, David K. Moore can be reached on (703) 308-7452. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application of proceeding should be directed to the receptionist whose telephone number is (703) 305-9700.



**KING Y. POON  
PRIMARY EXAMINER**